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ABSTRACT OF THE DISCLOSURE

In one aspect the invention provides a method
5 for laser induced breakdown of a material with a pulsed
laser beam where the material is characterized by a
relationship of fluence breakdown threshold (F_{th}) versus
laser beam pulse width (T) that exhibits an abrupt,
rapid, and distinct change or at least a clearly
10 detectable and distinct change in slope at a
predetermined laser pulse width value. The method
comprises generating a beam of laser pulses in which each
pulse has a pulse width equal to or less than the
predetermined laser pulse width value. The beam is
15 focused to a point at or beneath the surface of a
material where laser induced breakdown is desired.

The beam may be used in combination with a mask
in the beam path. The beam or mask may be moved in the x,
y, and z directions to produce desired features. The
20 technique can produce features smaller than the spot size
and Rayleigh range due to enhanced damage threshold
accuracy in the short pulse regime.